

研究论文

### 同时检测2种均三嗪类抗球虫药物残留的样品前处理方法的比较

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**摘要** 以均三嗪类抗球虫药物地克珠利和妥曲珠利的鸡组织残留样品为研究对象, 采用高效液相色谱(HPLC)分离, 紫外(UV)检测, 采用乙腈萃取-蒸发浓缩、乙腈萃取-固相萃取(SPE)、基质固相分散萃取(MSPD)和MSPD-SPE 4种方法对鸡组织中含地克珠利和妥曲珠利残留的样品的前处理效果进行了比较。前3种方法的平均回收率均达到70%以上, 能满足残留分析的要求。其中MSPD方法与其他方法相比, 节约时间60%以上, 节约溶剂也达60%。鉴于此, 采用基质固相分散萃取作为鸡组织样品的前处理方法, 建立了鸡组织中地克珠利和妥曲珠利残留的MSPD-HPLC/UV同时分析检测方法。在优化的色谱条件下, 方法的线性范围为50~1000 μg/L; 在50, 500, 1000 μg/kg的添加水平下, 地克珠利和妥曲珠利在鸡组织中的回收率为71.13%~84.02%, 相对标准偏差(RSD)为3.76%~12.11%; 方法的日内和日间测定的RSD范围为3.70%~6.77%。地克珠利和妥曲珠利的检出限均小于10 μg/g, 定量限均小于20 μg/kg。该方法在准确度、精密密度上均达到了残留分析的要求。

**关键词** [基质固相分散萃取](#) [高效液相色谱](#) [样品前处理](#) [地克珠利](#) [妥曲珠利](#) [残留](#) [鸡组织](#)

### Comparison of pretreatment methods for the simultaneous determination of diclazuril and toltrazuril residues in chicken tissues

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#### Abstract

The effects of four pretreatment methods (acetonitrile extraction-evaporation concentration, acetonitrile extraction-solid phase extraction (SPE), matrix solid-phase dispersion (MSPD) extraction and MSPD-SPE) for the simultaneous analysis of diclazuril and toltrazuril residues in chicken tissues were compared. The average recovery of 70% for the former three methods as achieved. In comparison with other methods, the MSPD method saved more than 60% in time and solvent. So, MSPD as the sample pretreatment method, an MSPD-high performance liquid chromatography with ultraviolet detection (MSPD-HPLC/UV) method was established for the analysis. Under the optimal chromatographic conditions, the linear range was between 50 and 1000 μg/kg. At the added levels of 50, 500, 1000 ng/g, the recoveries of diclazuril and toltrazuril in chicken tissues ranged from 71.13%~84.02% with the relative standard deviations (RSD) in the range of 3.76%~12.11%, and the RSDs of intra- and inter-day analyses ranged from 3.70%~6.77%. The detection limits of diclazuril and toltrazuril were less than 10 μg/kg. The quantitative limits of diclazuril and toltrazuril were less than 20 μg/kg. The method meet the requirements of the residue analysis on accuracy and precision.

**Key words** [matrix solid-phase dispersion extraction](#) [high performance liquid chromatography \(HPLC\)](#) [sample pretreatment](#) [diclazuril](#) [toltrazuril](#) [residues](#) [chicken tissues](#)

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